



Seeing the glass half full: Optimistic expressive writing improves mental health among chronically stressed caregivers

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Objectives. This study explored treatment mediators among caregivers of older adults who did not benefit from expressive writing in a recently published randomized clinical trial.

Methods. Twenty-seven expressive writing and time management participants completed questionnaires prior to writing, following their fourth writing session, and 1 month later. We examined the effect of group differences in linguistic markers on health improvements.

Results and conclusions. Our hypothesis concerning narrative development received no support, and expected links between function words and health were partially confirmed. Results most strongly supported the hypothesis that expressive writing benefited caregivers who used increasingly positive, optimistic, and future-focused language.

Expressive writing (EW) is increasingly being extended to new clinical populations, with mixed results (Frattaroli, 2006). For example, our randomized clinical trial with caregivers of older adults found that time management (TM) was associated with greater physical and mental health benefits than EW and history writing (Mackenzie, Wiprzycka, Hasher, & Goldstein, 2007). Although these findings raise doubt about the efficacy of written disclosure for caregivers experiencing chronic stress, the purpose of this study was to explore mediators of treatment response in our original study.

Linguistic markers within participants' writing have been shown to mediate health outcomes in EW. Because researchers have found that markers of meaningful narrative

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development are often associated with health benefits (Pennebaker & Chung, 2007), we hypothesized that increased use of cause and insight words would predict improvement. As well, because particle words have been linked to health outcomes (Chung & Pennebaker, 2007), we expected to find improvement among caregivers who used: (a) fewer first person singular words, which are linked to depression, (b) greater alternating use of first and third person, which suggest perspective taking, and (c) greater use of exclusive words, such as but and except, which reflect cognitive complexity and truth-telling. Finally, because coping research indicates that it is healthy to think about and plan for chronic and impending sources of stress with positive emotion and optimism (Aspinwall, 2005), we expected to find improvements among caregivers who used more frequent optimistic, future tense, and positive emotion words over writing sessions.

Method

Participants were informal primary caregivers of physically frail and/or cognitively impaired older adults. Whereas the original study consisted of 40 caregivers randomly assigned to EW, TM, or history writing conditions, the current study excluded history writing participants because they and EW participants experienced few health changes, and because we were primarily interested in determining why EW fared so poorly in comparison to TM. The 27 EW and TM participants had an average age of 62.52 years ($SD = 12.51$), 14.22 ($SD = 2.82$) years of education, 74% were female, 85% were married, 59% were working, 33% cared for spouses, and 59% cared for parents. On average, participants had been caregiving 8.95 ($SD = 9.90$) hours per day for 49.74 ($SD = 40.16$) months.

We matched caregivers according to age and gender, and randomly assigned them to writing groups. Writing took place in individual test rooms for 20 minutes on four occasions within a 2-week period. We used the Linguistic Inquiry and Word Count program to analyse cause, insight, first person, exclusive, optimism, future, and positive affect words. Caregivers completed the Impact of Events Scale to measure caregiver distress and the 28-item General Health Questionnaire to measure physical and mental health. They completed these measures at pre-intervention, post-intervention, and 1-month follow-up (See Mackenzie *et al.*, 2007 for procedural details).

Results

Moderated regression analyses examined the influence of group differences in linguistic markers (change from first to fourth writing session) on change scores (pre-intervention to follow-up) from those outcomes that Mackenzie and colleagues (2007) found group differences on. We interpreted interactions with follow-up simple slopes analyses.

Increases in cause and insight words did not predict improvement across outcomes. With respect to function words, first person words had no effect on outcomes, but increasing use of exclusive words had positive main effects on the IES Total ($\beta = 0.62$, $p = .006$), IES Intrusions ($\beta = 0.67$, $p = .004$), GHQ Total ($\beta = 0.51$, $p = .02$), and GHQ Anxiety and Insomnia subscale ($\beta = 0.49$, $p = .03$). The group by exclusive word interaction was significant for the IES Total ($\beta = -0.52$, $p = .02$) and nearly significant for Intrusions ($\beta = -0.39$, $p = .07$). For both IES outcomes, simple slopes were only significant for EW participants ($\beta = 0.76$, $p = .002$; $\beta = 0.73$, $p = .003$,

respectively), indicating that only they benefited from increasingly cognitively complex and truthful writing.

Increasing optimism predicted improvement on three outcomes. We found significant main effects for IES Intrusions ($\beta = 0.44, p = .03$), GHQ Total ($\beta = 0.66, p = .001$), and GHQ Anxiety and Insomnia ($\beta = 0.56, p = .005$), and group by optimism interactions were significant for each of these outcomes. For IES Intrusions ($\beta = -0.60, p = .004$), simple slopes demonstrated that increasing optimism benefited EW participants ($\beta = 0.53, p = .05$) but harmed TM participants ($\beta = -0.63, p = .02$). For GHQ Total ($\beta = -0.37, p = .04$) and Anxiety and Insomnia ($\beta = -0.42, p = .03$), increasing optimism only benefited EW participants ($\beta = 0.72, p = .003$; $\beta = 0.60, p = .02$, respectively).

Increasing use of future tense predicted improvement on the GHQ Total ($\beta = 0.80, p = .008$) and Anxiety and Insomnia subscale ($\beta = 0.76, p = .01$). For the GHQ Total, the group by future tense interaction approached significance ($\beta = -0.51, p = .06$) and the simple slope was only significant for EW participants ($\beta = 0.60, p = .02$). Similarly, for Anxiety and Insomnia ($\beta = -0.54, p = .05$), a significant simple slope for EW participants ($\beta = 0.55, p = .04$) indicated that only their anxiety and sleep improved with increasing future-oriented writing.

Finally, increasing positive emotion words predicted improvement on four outcomes. We found a significant group by positive word interaction for IES intrusions ($\beta = -0.54, p = .02$). Simple slopes revealed that increasing positivity harmed TM participants ($\beta = -0.62, p = .02$). For the GHQ, we found main effects for the Total ($\beta = 0.49, p = .03$), Anxiety and Insomnia subscale ($\beta = 0.62, p = .05$), and Depression subscale ($\beta = 0.52, p = .03$). The interaction with group was significant for Anxiety and Insomnia ($\beta = -0.42, p = .05$), with simple slopes revealing that increasing positivity only benefited EW participants ($\beta = 0.61, p = .02$).

Discussion

Despite our initial lack of support for EW among caregivers (Mackenzie *et al.*, 2007), this follow-up study suggests that it was effective under certain circumstances. Markers of meaningful narrative development were not predictive of improvement as they have been in previous research, perhaps because caregivers were in the midst of emotional upheavals, and EW might be most effective following trauma (Pennebaker & Chung, 2007). In contrast, EW participants who used increasingly frequent exclusive words showed particular improvement in psychological distress, suggesting that the minority of caregivers in the EW condition who wrote about their difficult situations with increasing honesty and complexity benefited from doing so.

Although EW effects are stronger for pessimists, likely because dispositional optimists are already coping well (Fratroli, 2006), we found the strongest support for our hypothesis that EW must be positive, optimistic, and future oriented to improve caregivers' health. The benefits of increasing use of optimism in this study may be due to its association with successful goal pursuit, adaptation to negative life circumstances, enhanced problem solving, and social support (Aspinwall, 2005). It is important to distinguish between optimistic writing and dispositional optimism, as the former has received little attention in the EW literature and the latter has resulted in equivocal findings. Our results suggest that, regardless of dispositional characteristics, caregivers whose writing about their challenging circumstances became increasingly optimistic

benefited. Future EW studies with chronically stressed populations should consider measuring both dispositional optimism and optimism word use, and possibly modifying EW instructions to target hope and optimism.

Despite our modest sample size that limits generalizability, statistical power, and opportunities to examine variation among caregivers within groups, our findings suggest that brief writing interventions hold promise for helping individuals with chronic stress cope more effectively, either by writing objectively about time management, or writing emotionally with honesty, complexity, and hope for the future.

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References

- Aspinwall, L. G. (2005). The psychology of future-oriented thinking: From achievement to proactive coping, adaptation, and aging. *Motivation and Emotion, 29*, 203-235.
- Chung, C. K., & Pennebaker, J. W. (2007). The psychological functions of function words. In K. Fiedler (Ed.), *Frontiers in social psychology* (pp. 343-359). New York: Psychology Press.
- Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin, 132*, 823-865.
- Mackenzie, C. S., Wiprzycka, U. J., Hasher, L., & Goldstein, D. (2007). Does expressive writing reduce stress and improve health for family caregivers of older adults? *Gerontologist, 47*, 296-306.
- Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. In H. Friedman & R. Silver (Eds.), *Handbook of health psychology* (pp. 263-284). New York: Oxford University Press.

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